plurality of features for the user can be generated, identified, or acquired based on interaction data associated with the user relating to prior interactions by the user that relate to content provided to the user that ultimately led to the user taking a previous particular action. At block **408**, the same or a separate machine learning model can be trained, generated, developed, or refined based on the features generated for the user to predict an intent of the user to take a future particular action based on the user having again had interactions similar to those that ultimately led to the user taking the previous particular action. At block **410**, the machine learning model can be applied or utilized to predict the intent of the user to take the future particular action and to select content items directed to getting the user to take the future particular action. At block **412**, a particular content item of the selected content items can be provided, presented, or displayed to the user based on the intent predicted for the user. Many variations are possible.

[0057] FIG. **4**B illustrates a flowchart describing an example process **450** of determining intent based on interaction data, in accordance with an embodiment. Again, it should be appreciated that there can be additional, fewer, or alternative steps performed in similar or alternative orders, or in parallel, within the scope of the various embodiments unless otherwise stated.

[0058] In the example process **450**, at block **452**, information associated with a particular tracking pixel in the set of tracking pixels can be provided for review. At block **454**, feedback from the review of the information associated with the particular tracking pixel can be acquired. At block **456**, one or more weights can be applied, based on the feedback from the review, to one or more features for the particular tracking pixel. In some cases, the machine learning model, discussed previously, can be trained based on the one or more features subsequent to the one or more weights being applied.

[0059] It is contemplated that there can be many other uses, applications, features, possibilities, and/or variations associated with various embodiments of the present disclosure. For example, users can, in some cases, choose whether or not to opt-in to utilize the disclosed technology. The disclosed technology can, for instance, also ensure that various privacy settings, preferences, and configurations are maintained and can prevent private information from being divulged. In another example, various embodiments of the present disclosure can learn, improve, and/or be refined over time.

Conclusion

[0060] The foregoing description of the embodiments has been presented for the purpose of illustration; it is not intended to be exhaustive or to limit the patent rights to the precise forms disclosed. Persons skilled in the relevant art can appreciate that many modifications and variations are possible in light of the above disclosure.

[0061] Some portions of this description describe the embodiments in terms of algorithms and symbolic representations of operations on information. These algorithmic descriptions and representations are commonly used by those skilled in the data processing arts to convey the substance of their work effectively to others skilled in the art. These operations, while described functionally, computationally, or logically, are understood to be implemented by computer programs or equivalent electrical circuits, microcode, or the like. Furthermore, it has also proven convenient at times, to refer to these arrangements of operations as modules, without loss of generality. The described operations and their associated modules may be embodied in software, firmware, hardware, or any combinations thereof.

[0062] Any of the steps, operations, or processes described herein may be performed or implemented with one or more hardware or software modules, alone or in combination with other devices. In one embodiment, a software module is implemented with a computer program product comprising a computer-readable medium containing computer program code, which can be executed by a computer processor for performing any or all of the steps, operations, or processes described.

[0063] Embodiments may also relate to an apparatus for performing the operations herein. This apparatus may be specially constructed for the required purposes, and/or it may comprise a general-purpose computing device selectively activated or reconfigured by a computer program stored in the computer. Such a computer program may be stored in a non-transitory, tangible computer readable storage medium, or any type of media suitable for storing electronic instructions, which may be coupled to a computer system bus. Furthermore, any computing systems referred to in the specification may include a single processor or may be architectures employing multiple processor designs for increased computing capability.

[0064] Embodiments may also relate to a product that is produced by a computing process described herein. Such a product may comprise information resulting from a computing process, where the information is stored on a non-transitory, tangible computer readable storage medium and may include any embodiment of a computer program product or other data combination described herein.

[0065] Finally, the language used in the specification has been principally selected for readability and instructional purposes, and it may not have been selected to delineate or circumscribe the patent rights. It is therefore intended that the scope of the patent rights be limited not by this detailed description, but rather by any claims that issue on an application based hereon. Accordingly, the disclosure of the embodiments is intended to be illustrative, but not limiting, of the scope of the patent rights, which is set forth in the following claims.

What is claimed is:

1. A computer-implemented method comprising:

generating, by an online system, a plurality of features for each tracking pixel in a set of tracking pixels used by a third party system to track actions of users on the third party system, the features generated based on an analysis and labeling of:

a set of one or more content items associated with each tracking pixel, and

a set of one or more landing pages associated with each tracking pixel;

training, by the online system, a machine learning model based on the features generated about what particular action a given content item and landing page associated with each tracking pixel is directed to getting a user to take;

generating, by the online system, a plurality of features for the user based on interaction data associated with the user relating to prior interactions by the user that